

OIIPE

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/895,435

DATE: 07/19/2001  
TIME: 15:50:45

Input Set : A:\9882012999.txt  
Output Set: N:\CRF3\07192001\I895435.raw

ENTERED

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3 <110> APPLICANT: Stewart, A. F.
4     Zhang, Y.
5     Hallet, B.
7 <120> TITLE OF INVENTION: A New Tyrosine Recombinase for Genetic Engineering
9 <130> FILE REFERENCE: 9882-012-999
C--> 11 <140> CURRENT APPLICATION NUMBER: US/09/895,435
C--> 11 <141> CURRENT FILING DATE: 2001-06-30
11 <160> NUMBER OF SEQ ID NOS: 10
13 <170> SOFTWARE: PatentIn version 3.0
15 <210> SEQ ID NO: 1
16 <211> LENGTH: 244
17 <212> TYPE: DNA
18 <213> ORGANISM: Bacillus thuringiensis
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22 aatatatcat tattccttga cacatacatg ttcttttttt atacaaaaaa taatacaaca      120
23 caatattaat tgtgttgtat taggtgttat aataaatata aatctagggg tttacgcaa      180
24 cacaatttat cgataataa atacttttag acgcaacaca atttatagac gcggaggaaa      240
25 tcac
27 <210> SEQ ID NO: 2
28 <211> LENGTH: 118
29 <212> TYPE: DNA
30 <213> ORGANISM: Bacillus thuringiensis
32 <400> SEQUENCE: 2
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34 tttacgcaa cacaatttat cgataataa atacttttag acgcaacaca atttatag      118
36 <210> SEQ ID NO: 3
37 <211> LENGTH: 32
38 <212> TYPE: DNA
39 <213> ORGANISM: Bacillus thuringiensis
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44 <210> SEQ ID NO: 4
45 <211> LENGTH: 249
46 <212> TYPE: DNA
47 <213> ORGANISM: Bacillus thuringiensis
49 <400> SEQUENCE: 4
50 ggggtaccgc cagcatttcg gaaaaaaacc acgctaagaa aatcagagtt aaaaaatcag      60
51 aaaatatatc attattcctt gacacataca tttctttttt ttatacaaaa aataatacaa      120
52 cacaatatta attgtgttgt attaggtgtt ataataaata taaatctagg ggtttaacgc      180
53 aacacaattt atcgataaat aaatactttt agacgcaaca caatttatag acgcggagga      240
54 aatcacatg
56 <210> SEQ ID NO: 5
57 <211> LENGTH: 798
58 <212> TYPE: DNA
59 <213> ORGANISM: Bacillus thuringiensis
61 <220> FEATURE:

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63 <222> LOCATION: (1)..(798)
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67 Met Asp Val Ala Lys Gln Phe Ser Ser Tyr Leu Lys Gln Glu Asn Lys
68 1          5          10          15
69 acc gag aac act gtt cag gga tac aca tca ggt att aga cag tac ata      96
70 Thr Glu Asn Thr Val Gln Gly Tyr Thr Ser Gly Ile Arg Gln Tyr Ile
71          20          25          30
72 aaa tgg ttt gaa ggt tcc tat gac aga aaa ttg aca aaa ttg tac cga      144
73 Lys Trp Phe Glu Gly Ser Tyr Asp Arg Lys Leu Thr Lys Leu Tyr Arg
74          35          40          45
75 caa aat atc tta gag tac att agt tat tta aag aat gtc aaa atg ttg      192
76 Gln Asn Ile Leu Glu Tyr Ile Ser Tyr Leu Lys Asn Val Lys Met Leu
77          50          55          60
78 aac gcc aag tcc att aac cac aag att agt agc ctt gct aaa ttt aat      240
79 Asn Ala Lys Ser Ile Asn His Lys Ile Ser Ser Leu Ala Lys Phe Asn
80 65          70          75          80
81 gaa ttt cta ata cag aaa gga agt caa caa gat caa gta att tta tta      288
82 Glu Phe Leu Ile Gln Lys Gly Ser Gln Gln Asp Gln Val Ile Leu Leu
83          85          90          95
84 gat gta aaa aag ttt tta caa agt gtg tta gag gat aat aac aaa cgt      336
85 Asp Val Lys Lys Phe Leu Gln Ser Val Leu Glu Asp Asn Asn Lys Arg
86          100          105          110
87 aat tat gca att gcc act ctc cta gca tat aca gga gta cgt att tca      384
88 Asn Tyr Ala Ile Ala Thr Leu Leu Ala Tyr Thr Gly Val Arg Ile Ser
89          115          120          125
90 gag gca tta tct atc aaa atg aat gac ttc aat tta cag act ggg gaa      432
91 Glu Ala Leu Ser Ile Lys Met Asn Asp Phe Asn Leu Gln Thr Gly Glu
92          130          135          140
93 tgt att att cga agt gga aaa gga ggt aaa caa cga att gta tta cta      480
94 Cys Ile Ile Arg Ser Gly Lys Gly Lys Gln Arg Ile Val Leu Leu
95 145          150          155          160
96 aat agt aag gta ctt agt gct atc aaa gat tat ctc atc gat cga aaa      528
97 Asn Ser Lys Val Leu Ser Ala Ile Lys Asp Tyr Leu Ile Asp Arg Lys
98          165          170          175
99 aca tac agt aca gca cat gaa tct ccg tat ctt ttt att agt aaa aag      576
100 Thr Tyr Ser Thr Ala His Glu Ser Pro Tyr Leu Phe Ile Ser Lys Lys
101          180          185          190
102 cga gaa aag ctc gac cgt acg gtc gtc aat cgt atc ttt aaa tca tac      624
103 Arg Glu Lys Leu Asp Arg Thr Val Val Asn Arg Ile Phe Lys Ser Tyr
104          195          200          205
105 agg aat gtt att act cca cac caa tta cga cac ttc ttc tgt acg aat      672
106 Arg Asn Val Ile Thr Pro His Gln Leu Arg His Phe Phe Cys Thr Asn
107          210          215          220
108 gca att caa aaa gga ttt agc att cat gaa gtt gca aat caa gct ggg      720
109 Ala Ile Gln Lys Gly Phe Ser Ile His Glu Val Ala Asn Gln Ala Gly
110 225          230          235          240
111 cac tct aac atc cat acg aca cta ctt tac aca aat cca aac caa ctg      768

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112 His Ser Asn Ile His Thr Thr Leu Leu Tyr Thr Asn Pro Asn Gln Leu
113                               245                               250                               255
114 cag cta aaa aat aaa atg gag ctc tta taa
115 Gln Leu Lys Asn Lys Met Glu Leu Leu
116                               260                               265
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119 <211> LENGTH: 265
120 <212> TYPE: PRT
121 <213> ORGANISM: Bacillus thuringiensis
123 <400> SEQUENCE: 6
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127 Thr Glu Asn Thr Val Gln Gly Tyr Thr Ser Gly Ile Arg Gln Tyr Ile
128                               20                               25                               30
130 Lys Trp Phe Glu Gly Ser Tyr Asp Arg Lys Leu Thr Lys Leu Tyr Arg
131                               35                               40                               45
133 Gln Asn Ile Leu Glu Tyr Ile Ser Tyr Leu Lys Asn Val Lys Met Leu
134 50                               55                               60
136 Asn Ala Lys Ser Ile Asn His Lys Ile Ser Ser Leu Ala Lys Phe Asn
137 65                               70                               75                               80
139 Glu Phe Leu Ile Gln Lys Gly Ser Gln Gln Asp Gln Val Ile Leu Leu
140                               85                               90                               95
142 Asp Val Lys Lys Phe Leu Gln Ser Val Leu Glu Asp Asn Asn Lys Arg
143                               100                              105                              110
145 Asn Tyr Ala Ile Ala Thr Leu Leu Ala Tyr Thr Gly Val Arg Ile Ser
146                               115                              120                              125
148 Glu Ala Leu Ser Ile Lys Met Asn Asp Phe Asn Leu Gln Thr Gly Glu
149 130                              135                              140
151 Cys Ile Ile Arg Ser Gly Lys Gly Gly Lys Gln Arg Ile Val Leu Leu
152 145                              150                              155                              160
154 Asn Ser Lys Val Leu Ser Ala Ile Lys Asp Tyr Leu Ile Asp Arg Lys
155                               165                               170                               175
157 Thr Tyr Ser Thr Ala His Glu Ser Pro Tyr Leu Phe Ile Ser Lys Lys
158                               180                               185                               190
160 Arg Glu Lys Leu Asp Arg Thr Val Val Asn Arg Ile Phe Lys Ser Tyr
161                               195                               200                               205
163 Arg Asn Val Ile Thr Pro His Gln Leu Arg His Phe Phe Cys Thr Asn
164 210                              215                              220
166 Ala Ile Gln Lys Gly Phe Ser Ile His Glu Val Ala Asn Gln Ala Gly
167 225                              230                              235                              240
169 His Ser Asn Ile His Thr Thr Leu Leu Tyr Thr Asn Pro Asn Gln Leu
170                               245                               250                               255
172 Gln Leu Lys Asn Lys Met Glu Leu Leu
173                               260                               265
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176 <211> LENGTH: 116
177 <212> TYPE: DNA
178 <213> ORGANISM: Bacillus thuringiensis
180 <400> SEQUENCE: 7

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181 taatacaaca caatattaat tgtgttgat taggtgttat aataaatata tatctagggg      60
182 tttaacgcaa cacaatttat cgataaataa atacttttag acgcaacaca atttat      116
184 <210> SEQ ID NO: 8
185 <211> LENGTH: 116
186 <212> TYPE: DNA
187 <213> ORGANISM: Bacillus thuringiensis
189 <400> SEQUENCE: 8
190 taatacaaca caatattaat tgtgttgat taggtgttat aatatatata aatctagggg      60
191 tttaacgcaa cacaatttat cgataaataa atacttttag acgcaacaca atttat      116
193 <210> SEQ ID NO: 9
194 <211> LENGTH: 116
195 <212> TYPE: DNA
196 <213> ORGANISM: Bacillus thuringiensis
198 <220> FEATURE:
199 <221> NAME/KEY: N_region
200 <222> LOCATION: 33 .. 64
201 <223> OTHER INFORMATION: n = a, t, g, or c
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204 <222> LOCATION: 81 .. 100
205 <223> OTHER INFORMATION: n = a, t, g, or c
207 <400> SEQUENCE: 9
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211 <210> SEQ ID NO: 10
212 <211> LENGTH: 124
213 <212> TYPE: DNA
214 <213> ORGANISM: Bacillus thuringiensis
217 <220> FEATURE:
218 <221> NAME/KEY: N_region
219 <222> LOCATION: 33 .. 74
220 <223> OTHER INFORMATION: n = a, t, g, or c
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225 ttta      124

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## VERIFICATION SUMMARY

DATE: 07/19/2001

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Input Set : A:\9882012999.txt

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L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:208 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:209 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9  
L:223 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10  
L:224 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10